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EXAMINER	
HUFFMAN, JULIAN D	

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 03/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

BJC

Office Action Summary	Application No.	Applicant(s)	
	10/611,422	CHUN, YOUNG-SUN	
	Examiner	Art Unit	
	Julian D. Huffman	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1-6,11,18 and 19* is/are allowed.

6)☒ Claim(s) *7-10,12-15 and 20-23* is/are rejected.

7)☒ Claim(s) *16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/9/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 13 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Haselby et al. (U.S. 5,250,956).

Haselby et al. discloses:

With regards to claim 13, an apparatus (fig. 6) for measuring an image alignment error for image formation in an image forming apparatus having a carriage (fig. 6), the apparatus comprising:

a test marking print-directing unit (element 45) which prints first and second test marks on a printing medium according to a designated error distance (fig. 13a, designated error distance is 0, column 14, lines 37-45);

an error distance detecting unit which detects an actual error distance of only the first and second test marks for compensating for the image alignment error according to the detected actual error distance and the designated error distance (65, column 14,

lines 37-45, if the detected error distance is different from the designated error distance, an error is detected).

With regards to claim 22, a method of measuring an image alignment error for image formation in an image forming apparatus having a carriage (fig. 6), the method comprising:

printing only first and second test marks on a printing medium according to a designated error distance (fig. 13 and column 14, lines 37-45); and

detecting an actual error of only the first and second test marks for compensating for the image alignment error according to the detected actual error distance and the designated error distance (column 14, lines 37-45).

3. Claims 7-10, 12-15, 20, 21 and 23 are rejected under 35 U.S.C. 102(e) as being anticipated by Ikeda (U.S. 6,607,260 B1).

Ikeda discloses:

With regards to claim 7, an apparatus for measuring image alignment errors for image formation in an image forming apparatus having a carriage (fig. 1, abstract), the apparatus comprising:

a test mark print-directing unit (fig. 3) which directs the carriage to print two test marks (figs. 1 and 4, a-F and a-R) separated from each other by a designated error distance (0) on a printing medium on which images are printed (column 13, lines 57-65, column 14, lines 13-30);

a test mark sensing unit (fig. 3, element 1) which senses only the two test marks for the measuring of image alignment error (the sensor is capable of sensing only the two test marks), and outputs a sensed result of the two test marks (column 13, lines 39-42, column 14, lines 44-46 and 52-55);

a reference clock generating unit (fig. 3, element 7) which generates a reference clock and outputs the generated reference clock (column 13, lines 47-48);

a sensed instant of time measuring unit (fig. 3, counter, element 9) which compares the sensed result of the two test marks with the generated reference clock to measure instants of time when the two test marks are sensed according to a movement of the carriage, and outputs the measured instants of time (column 13, lines 48-50, column 14, line 63-column 15, line 10); and

an error distance detecting unit (fig. 3, element 13) which detects an actual error distance of the two test marks using the measured instants of time and a moving speed of the carriage, and outputs the detected actual error distance (column 13, lines 51-53 and column 15, lines 6-40).

With regards to claims 8 and 9, the test mark print-directing unit directs the carriage to print each of the two test marks on the printing medium using different image printing methods or in different printing directions (first mark is printed in first direction which is a first printing method and second mark is printed in second direction which is a second printing method, column 14, lines 18-22).

With regards to claim 10, the error distance detecting unit (fig. 3, element 13) detects a time difference between the measured instants of time of the two test marks

and multiplies the detected time difference by the moving speed of the carriage to output the detected actual error distance (column 15, line 26).

With regards to claim 12, an image alignment correction value detecting unit (fig. 3, element 13) which obtains a distance difference between the designated error distance and the actual error distance, detects an image alignment correction value from the distance difference, and outputs the detected image alignment correction value to compensate for the image alignment errors (column 15, lines 6-39).

With regards to claim 13, Ikeda discloses an apparatus for measuring an image alignment error for image formation in an image forming apparatus having a carriage (fig. 1, abstract), the apparatus comprising:

a test mark print-directing unit (fig. 3) which prints first and second test marks on a printing medium (figs. 1 and 4, a-F and a-R) according to a designated error distance (column 13, lines 57-65, column 14, lines 13-30); and

an error distance detecting unit (fig. 1, element 13) which detects an actual error distance of only the first and second test marks for compensating for the image alignment error according to the detected actual error distance and the designated error distance (column 13, lines 51-53 and column 15, lines 6-40, the measured distances are compared to determine a distance between the forward and backward test marks, this distance is the detected actual error distance; the detection of the first mark relative to the reference and the second mark relative to the reference do not constitute detection of an error, it is only in the calculation steps that an error is detected).

With regards to claim 14, an apparatus for measuring an image alignment error for image formation in an image forming apparatus having a carriage (fig. 1, abstract), the apparatus comprising:

a test mark print-directing unit (fig. 3) which directs the carriage to print first and second test marks (figs. 1 and 4, a-F and a-R) on a printing medium according to a designated error distance (column 13, lines 57-65, column 14, lines 13-30);

a test mark sensing unit (fig. 3, element 1) which senses only the first and second test marks (the test mark sensing unit is capable of detecting only the two marks), for the measuring of image alignment error, and outputs first and second sensed results of the first and second test marks (column 13, lines 39-42, column 14, lines 44-46 and 52-55);

a sensed instant of time measuring unit (fig. 3, element 7) which measures instants of time when the first and second test marks are sensed, according to the first and second sensed results, and outputs the measured instants of time (column 13, lines 48-50, column 14, line 63-column 15, line 10); and

an error distance detecting unit (fig. 3, element 13) which detects an actual error distance of the first and second test marks using the measured instants of time to compensate for the image alignment error according to the detected actual error distance of the first and second test marks (column 13, lines 51-53 and column 15, lines 6-40).

With regards to claim 15, a reference clock generating unit (fig. 3, element 7) which generates a reference clock, wherein the sensed instant of time measuring unit

generates the measured instants of time according to the sensed result of the first and second test marks and the generated reference clock (column 13, lines 48-50, column 14, line 63-column 15, line 10).

With regards to claim 20, the carriage moves in a first direction, the printing medium moves in a second direction, and the first and second test marks are printed in one of the first and second directions (fig. 1).

With regards to claim 21, the carriage moves with respect to the printing medium to print an image in another printing direction according to a difference between the actual error distance and the designated error distance (column 15, lines 31-39).

With regards to claim 23, a method of measuring an image alignment error for image formation in an image forming apparatus having a carriage, the method comprising:

directing the carriage to print first and second test marks (Figs. 1 and 4, dots forming the patch a-ref 1 represent the first marks, while dots forming the patches a-F, a-R represent the second marks) on a printing medium according to a designated error distance (column 14, lines 12-22);

sensing only the first and second test marks, for the measuring of the image alignment error, to output first and second sensed results of the first and second test marks (column 14, lines 44-46);

measuring instants of time when only the first and second test marks are sensed, according to the first and second sensed results to output the measured instants of time (column 14, lines 56-67); and

detecting an actual error distance of only the first and second test marks using the measured instants of time to compensate for the image alignment error according to the detected actual error distance of the first and second test marks (column 15, lines 6-39).

Response to Arguments

4. Applicant's arguments filed 20 January 2006 have been fully considered but they are not persuasive.

Applicant's request for a new non-final action is denied.

Applicant states that the claimed test mark sensing unit must be designed to particularly perform the claimed sensing of only two test marks. The examiner disagrees and maintains that the test mark sensing unit merely must be capable of sensing only the two test marks, and not designed to particularly sense only two test marks.

In *Intel Corp. v. U.S. International Trade Commission,* 948 F.2d 821, 832, 20 USPQ 2d 1161, 1171 (Fed. Cir. 1991) , the CAFC interpreted functional language in an apparatus claim as requiring that an apparatus possess the capability of performing the recited function. "Intel could only have been interpreting the functional language of claim 1 -- including that of element c(i) calling for "at least one segment descriptor registor [*sic.*] *storing* a segment base and a limit" -- as requiring only the *capability* of storing rather than actually storing. 3 The only consistent way to interpret the identical functional language in claim 2 is to read that claim as also requiring only the capability of storing page table entries in external memory."

See also *In re Mills* (CA FC) 16 USPQ2d 1430, "[w]e are of the opinion that the Mathis machine is capable of being operated in such a fashion as to cause [the output] pump 18 to draw air into the mixing chamber 17 so that it is entrained in the mixture." "Mills is not claiming a method, but an apparatus, and all of Mills' apparatus structure is present in the Mathis machine.",

Applicant's argument that the sensing unit is not designed to perform the claimed sensing of only two marks, but rather is particularly designed to detect more than two marks, is noted. However, the examiner can see no structural differences between the sensor in the prior art and applicant's sensor. Further, the examiner can conceive of no structural differences between a sensor designed to sense only two test marks and a sensor capable of sensing only two test marks.

Applicant's citation of MPEP 2173.05(g) is noted. Applicant further cites In re Venezia, 530 F.2d 956, 189 USPQ 149 (CCPA 1976). This case is respectfully not relevant to the issues of the present application. It relates to 112 2nd. and 101 rejections of "kit" claims. The quotation cited by applicant, that certain limitations define present structural attributes of interrelated component parts, is not germane to the issues of the present application as applicant is not defining attributes of interrelated parts. Further, this case supports the present rejection as the limitation that the sensor senses only two test marks does not define structural attributes of the sensing device.

Applicant states that the office action's interpretation of Ikeda et al. as being capable of implement the claimed sensing of only two marks is factually incorrect,

however applicant has not provided an explanation as to why the sensor of Ikeda et al. is incapable of sensing only two marks.

Applicant's statement that the office action is actually setting forth that it would have been obvious to modify Ikeda et al. to only sense two marks is not well taken. The rejection is a 102 rejection, not a 103 rejection. Accordingly applicant's arguments regarding a 103 rejection are irrelevant. Despite applicant's comments, it should be clear from the prosecution history that the rejection is a 102 rejection.

With regards to claim 13, applicant's argument that Ikeda et al. senses at least 3 marks and therefore does not disclose "an error distance detecting unit which detects an actual error distance of only the first and second test marks for compensating for the image alignment error according to the detected actual error distance and the designated error distance" is noted. However, the language of claim 13 fails to mention the sensing of only two marks. Rather, the claim language states that the error distance of only two marks is detected. This is precisely what Ikeda does. Ikeda detects the distance from a reference mark to a forward mark and a distance from the reference mark to a backward mark. By comparing these distances, Ikeda detects an error distance of only the first and second marks. Further, it is respectfully suggested that applicant consider the actual passages cited in the rejection and not the passages referenced in the remarks, which are directed to an entirely different correction process.

Applicant's argues that Haselby's test pattern is one of three possible test patterns shown in figs. 13a-13c. This statement is respectfully incorrect. The test patterns shown in the figures are merely examples. Applicant's argument that Haselby

does not disclose an error distance detecting unit is not persuasive. As stated in the rejection, element 65 detects the error distance. Applicant's statement that actual error distance is not detected, and rather Haselby only identifies whether the marks fall into category (a), (b), or (c) is incorrect. Again, fig. 13 shows only representative examples. Certainly, with the myriad of factors that affect dot alignment, dot alignment does not simply fall into one of three categories.

Additionally, the response to arguments provided in the previous rejection is maintained and the claims are also unpatentable for reasons provided in the prior rejection.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julian D. Huffman whose telephone number is (571) 272-2147. The examiner can normally be reached on 10:00a.m.-6:30p.m. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Julian D. Huffman
Art Unit 2853
8 March 2006

K. FEGGINS
PRIMARY EXAMINER